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Exhibit A

THE SCIENCE OF FINGERPRINTS

Classification and Uses



UNITED STATES DEPARTMENT OF JUSTICE
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Types of Patterns and Their Interpretation

Types of patterns

Fingerprints may be resolved into three large general groups of patterns, each group bearing the same general characteristics or family resemblance. The patterns may be further divided into sub-groups by means of the smaller differences existing between the patterns in the same general group. These divisions are as follows:

- | | | |
|-----------------|-----------------|-------------------------|
| I. ARCH | II. LOOP | III. WHORL |
| a. Plain arch. | a. Radial loop. | a. Plain whorl. |
| b. Tented arch. | b. Ulnar loop. | b. Central pocket loop. |
| | | c. Double loop. |
| | | d. Accidental whorl. |

Illustrations 1 to 10 are examples of the various types of fingerprint patterns.



1. Plain arch.



2. Tented arch.

Interpretation

Before pattern definition can be understood, it is necessary to understand the meaning of a few technical terms used in fingerprint work.

The *pattern area* is the only part of the finger impression with which we are concerned in regard to interpretation and classification. It is present in all patterns, of course, but in many arches and tented arches it is im-



3. Tented arch.



4. Loop.



5. Loop.



6. Central pocket loop.



7. Plain whorl.

8. Double loop.

Fingerprint Minutia Point

Type1

Branch Point

Type2

End Point

Fig-1

Branch Point

End Point

Branch Point

Branch Point

Fig-2